SEXUAL PREFERENCES IN YOUNG ADULT MALES AND SOME CORRELATES

EUGENE E. LEVITT AND JOHN PAUL BRADY

Indiana University Medical Center *University of Pennsylvania School of Medicine*

PROBLEM

The importance of sexual phenomena for human behavior and personality development has not been seriously questioned in the mental health field for some decades. Unfortunately, taboos and social prejudices have severely limited occupation with, and the scope of, research in this area. The many problems have been concisely summarized by Pomeroy [3]. One of the major problems has been that moral considerations have precluded the systematic collection of observational data with the result that those few studies which have been done have depended upon interview techniques. Without impeaching the validity of those studies, it does not seem unreasonable to conjecture that interview data are highly likely to be obfuscated by factors like communication difficulties, semantic variations, and social desirability biases.

This study sought to circumvent some of these methodological difficulties by employing a unique approach. The basic data concerned preferences for various sexual activities. These were measured by presenting photographs depicting the activity and requiring the subject to report the degree to which he found the photographs to be sexually stimulating. One may question the meaningfulness of defining preference in this manner, especially since it is evident that fantasy stimulation need not be directly related to actual behavior. Our position is one of rigid operationism; the utility and eventual significance, if any, of our mode of defining is a matter for empirical determination. It is also conceivable that experimental outcomes may prove to be revealing even if preference is not inferred from reactivity.

SELECTION OF THE STIMULUS PHOTOGRAPHS

Our intent was to investigate preferences for various sexual activities (see the listing in Table 3), as these are defined by the photographs and procedures of the investigation, and their correlates. As a matter of interest, we included among the stimuli four still photographs of single individuals. For this reason, we use the term "theme" rather than activity in referring to the different types of photographs.

Considering any single pair of photographs representing different themes, selected at random, it is conceivable that group preference for one or the other could be a function of factors of the stimuli other than the theme itself, such as physical characteristics of the portrayed individuals. To minimize the possibility of the influence of such extraneous factors, several steps were taken in the selection of the photographs for the experiment proper. The selection procedure itself is described below. It was necessary to employ three photographs for each theme so as to be able to statistically estimate the reliability of the rating of the themes. High reliability would indicate that a group rating of the various themes tended to be constant over different photographs, suggesting that the common element—the depicted activity—was the paramount factor upon which ratings were based, and that any error introduced by extraneous factors was minimal.

Ten 5 x 8 photographs representing each of 19 sexual themes were selected from a larger pool by three judges[1] using a conference technique. Factors which were considered in making the choices were: a) individuals in the photographs should be relatively young and attractive; b) no photograph was to be selected which could be identified through clothing, hair styling, furniture, etc., as having been taken prior to 1940; c) within each set of ten, the degree of nudity and the positions of the participants should be roughly equivalent.

The 190 photographs were submitted in the sets of 10 to each of a group of 25

[1]Two of the judges were the authors. The third was Wardell B. Pomeroy, then director of field research of the Institute for Sex Research. The authors are grateful for his cooperation.

male graduate student volunteers, all aged at least 21 years. They were paid $2 for their performance and were guaranteed anonymity. The instructions were as follows:

> Your task is to rank these ten photographs according to the degree to which you find them sexually stimulating. The photograph which is the most sexually exciting should be ranked 1; the photograph which is the least sexually exciting should be ranked 10, and so forth. Enter your rankings on the response sheet.

Coefficients of concordance among ranks for each set (A, B and C) were all statistically significant but low, ranging from .08 to .45. These relatively poor reliability coefficients are actually desirable since they suggest that the experimenters had succeeded to a considerable degree in selecting equivalent photographs within each set.

Despite the low coefficients of concordance, the agreement at the top of the rankings for each set was fairly good. The three top-ranked photographs in each set were selected for further use. Their mean rankings ranged from 2.5 to 4.9.

Procedure

The subjects in the experiment proper were 68 male graduate students ranging in age from 21 to 32, mean 23.9 years. They were seen experimentally in groups of from 10 to 12 subjects and all data were collected in a single session. Subjects were paid $6 for their participation, which required about two hours. They were identified only by code number throughout the study and were frequently reassured of the confidentiality of information collected during the experiment.

The three sets of 19 photographs each derived from the preliminary phase of the investigation were presented to each subject in different sequences with the following instructions:

> Your task is to rate each of the photographs according to the degree to which you find it sexually stimulating. Give each photograph a numerical rating on the scale below. A rating of 0 means that the photo is not at all sexually stimulating to you. A rating of 5 means that the photo is very highly sexually stimulating. Ratings of 1, 2, 3, and 4 mean varying degrees of erotic value in ascending order. Thus a rating of 4 means that the photo is less stimulating than 5 but more stimulating than 3, and so forth.

Each subject also completed a background data sheet, the Edwards Personal Preference Schedule, and a Sex Experiences Inventory.[2]

Reliability of the Ratings

Before proceeding to estimate reliability, we first considered the possibility that the order of presentation of the different sets of photographs might have had some effect. The three sets of photographs had been presented to subgroups of various sizes in each of the six possible orders. A summary of the appropriate analysis of variance by the method of unweighted means[4] is given in Table 1. The variance

Table 1. Variance Analysis Summary Showing the Absence of Effects of Order of Presentation of Sets of Photographs

Source	*df*	Mean Square	*F*
Order Groups	5	155.80	0.44
Subjects within groups	62	352.19	
Sets	2	53.33	4.34*
Sets × Order Groups	10	6.80	0.55
Sets by subjects within groups	124	12.28	

*$P < .025$

[2]Data and correlates of the Sex Experiences Inventory are contained in the paper by Brady and Levitt[1].

due to order groups is not statistically significant nor is the variance due to the interaction between sets and order groups. The logical inference is that the ratings were not affected by the sequence in which the different sets were presented to the *Ss*. The variance due to sets itself is statistically significant; this will be discussed later. These differences need not have any effect on reliability.

Another question which could have some bearing on reliability is whether or not there is a position effect. That is, do *Ss* tend to rate the set of photographs first presented differently from the second set and/or from the third set, regardless of which set is in which position? Data from many other sensory experiments suggest the possibility of such an accommodation effect. Accordingly, an appropriate variance analysis is summarized in Table 2 and shows clearly that there was no position effect nor any interaction between position and order of presentation of the sets.

TABLE 2. VARIANCE ANALYSIS SUMMARY SHOWING THE ABSENCE OF POSITION EFFECT

Source	*df*	Mean Square	*F*
Positions	2	14.25	1.16
Positions × Order Groups	10	14.62	1.19
Positions × Subjects within Order Groups	124	12.28	

There are several ways to estimate reliability of our data, with the choice depending upon the purpose of the estimate. The single most revealing measure of reliability would seem to be an estimate of the consistency of each *S* in making ratings of the different themes across the three sets of photographs. This can be estimated by means of 68 separate variance analyses, each based on a 3 (sets) by 19 (themes) matrix.[3] The range of the 68 individual reliability coefficients obtained in this manner was .758 to .998 with a median of .952. Only two coefficients were below .80 and only 17 were below .90.

It is evident that the *Ss* manifested a high degree of consistency within themselves. It is possible, however, that they were not consistent *among* themselves. A different arrangement of the data was required to make these reliability estimates. For each set of photographs, the ratings were cast in a 68 (*Ss*) by 19 (themes) matrix and an appropriate variance analysis was computed for each set, and for the total of the ratings for all three sets.[4] The coefficients thus obtained were .86 for Set A, and .84 for Sets B and C. The reliability coefficient of the total over the three sets was .88. This total is called the Reactivity Index (RI), that is, a measure of the subject's general level of response to photographic stimuli of this type.

It is evident that the reliability of ratings made by our subjects was satisfactorily high. The differences among mean ratings for the three sets of photographs are statistically significant, as indicated in the summary in Table 1, but they are numerically trivial, the largest being only 0.08.[5] There appeared to be no methodological reason why we could not average each *S*'s rating for the three photographs in each theme and use it as an index of his preference for the depicted behavior, nor why we could not average all the ratings given by our *Ss* to any particular theme as a measure of group preference for that theme.

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[3] In the two-factor analysis of variance, the reliability coefficient is defined as $1 - \frac{MS_{error}}{MS_{themes}}$.

[4] The reliability coefficient for each set of 19 photographs is defined as in footnote 3. The coefficient for the Reactivity Index, i.e., for theme totals over the three sets, is defined as $1 - \frac{MS_{error}}{MS_{subjects}}$.

[5] The Set A mean of 2.19 was significantly higher than those for Sets B and C (t's of 3.44 and 3.16, $P < .01$). Means for Sets B and C did not differ significantly ($t = 0.28$). This is a partial support for the original ranking procedure by which the three sets were selected.

Normative Results

The mean ratings per photograph by the 68 *Ss* are given in Table 3. The column at the extreme right is the mean for the three sets, or the theme average. The set means are based on an *N* of 19 photographs by 68 *Ss* = 1292. The theme means are based on three photographs × 68 *Ss* = 204. The mean of the theme means, 2.14, is based on 68 *Ss* by three sets by 19 photographs, or an *N* of 3876.

Table 3. Mean Ratings for Each Photograph

No.	Theme	Means of Sets A	B	C	Total	SD
1.	Hs coitus, ventral-ventral	4.31	4.01	4.07	4.13	0.99
2.	Hs coitus, ventral-dorsal	3.69	3.69	3.71	3.70	1.18
3.	Hs petting, nude	3.62	3.54	3.72	3.63	1.19
4.	Hs petting, partly clad	3.41	3.38	3.49	3.43	1.28
5.	Hs fellatio	3.37	3.22	3.59	3.39	1.42
6.	Nude female	3.47	2.97	3.06	3.17	1.14
7.	Hs cunnilingus	3.00	3.19	2.93	3.04	1.32
8.	Masturbation, female	2.81	2.50	2.85	2.72	1.32
9.	Triad*	2.76	2.63	2.66	2.69	1.36
10.	Partly clad female	2.90	2.54	2.44	2.63	1.38
11.	Ho cunnilinguus	1.85	2.34	2.06	2.08	1.31
12.	Ho petting, female	1.99	1.84	1.57	1.80	1.16
13.	SM, male on female	1.40	0.93	1.25	1.19	1.22
14.	Ho fellatio	0.79	0.90	0.82	0.84	1.04
15.	SM, female on male	0.74	0.94	0.76	0.81	0.98
16.	Masturbation, male	0.87	0.82	0.69	0.79	0.81
17.	Ho anal coitus	0.44	0.46	0.37	0.42	0.64
18.	Nude male	0.10	0.16	0.12	0.13	0.40
19.	Partly clad male	0.03	0.03	0.06	0.04	0.24
	Total	2.19	2.11	2.12	2.14	
	SD	1.72	1.69	1.74	1.72	

Code: Hs = heterosexual; Ho = homosexual; SM = sado-masochism

*Two females and one male in conjunctive behavior involving coitus and oral-genital activity.

The mean of the theme means is, of course, also the mean Reactivity Index for the 68 *Ss*, i.e., the mean of the mean ratings per *S* for the total group of 57 photographs. The range of RI's was from 1.00 to 3.32, SD 0.56. The distribution is approximately symmetrical about the mean of 2.14 with a range in SD units of almost precisely ±2.

An *F*-ratio for differences among theme means is 178.6 with degrees of freedom of 18 and 1206, obviously significant beyond some minuscule probability level. The standard error of the difference between any two theme means is 0.142 so that the mean difference must be at least 0.28 in order to attain significance at the 5% level, and 0.37 for the 1% level.

Correlational Results

Discrete variables on which data for our *Ss* were obtained were marital status, religious preference, frequency of church attendance, size of the community in which the *S* spent the early years of his life, and previous exposure to similar photographic stimuli. *F*-ratios were computed among means for each of the 19 themes and the Reactivity Index for various subsamples based on the divisions of the discrete variables.[6]

[6] *N*'s for some of the analyses of discrete variables do not total to 68 because a few subjects were dropped for methodological reasons. One widowed and one divorced subject were discarded from the marital status analysis; six members of various minority religions were eliminated from the religious preference analysis, and one subject did not indicate whether or not he had been previously exposed to sexual photographs.

No significant differences were found on any of the 20 tests between the 36 married and 30 unmarried *Ss*. The same was true for the breakdown according to religious preference which yielded 38 Protestants, 15 Catholics, and 9 *Ss* claiming no religious affiliation. No differences were found between the means for the 59 *Ss* who had been previously exposed to this type of photographic stimuli, and the 8 who reported that they had not.

Two statistically significant *F*-ratios were found for each of the quadripartite variables of church attendance and size of community. The means are shown in Table 4. In each instance, the trend of reactivity appears to be curvilinear though

TABLE 4. SIGNIFICANT RELATIONSHIPS BETWEEN THEME RATINGS AND DISCRETE VARIABLES

	Frequency of Church Attendance				
Theme No.	Weekly	25-40 per yr.	6-24 per yr.	Seldom	*F*
N	21	8	13	26	
5	3.14	2.50	3.49	3.82	2.81*
8	2.40	2.29	2.49	3.23	3.86*

	Size of Community				
Theme No.	< 10,000	10-25,000	26-100,000	> 100,000	*F*
N	17	10	13	28	
14	1.18	1.20	0.41	0.70	2.70*
17	0.71	0.60	0.10	0.33	3.65*

*Significant at the 5% level.

it is difficult to establish such a phenomenon based on only four points. In general, it appears that those who are less religiously devout show more preference for heterosexual fellatio and female masturbation than do their more devout colleagues. *Ss* who were raised in the less populous communities reacted more strongly to the two themes representing male homosexual activities.

TABLE 5. RELATIONSHIPS AMONG THEME RATINGS AND FOUR CONTINUOUS VARIABLES

Theme No.	Ord	EPPS End	Chg	Age at Puberty
1	.21	−.15	−.11	−.15
2	.25*	−.24*	−.17	−.20
3	.09	−.27*	.05	−.36**
4	−.12	−.34**	.10	−.25*
5	.18	−.14	.05	−.24*
6	.03	.03	−.04	−.06
7	−.06	−.25*	.20	−.15
8	−.18	−.09	−.03	−.09
9	.18	−.22	−.03	−.17
10	.00	.03	.02	−.03
11	.06	−.28*	.13	−.16
12	.22	−.26*	−.01	−.07
13	.07	−.22	−.16	−.01
14	.30*	−.14	−.03	.08
15	−.06	−.17	−.06	.00
16	.30*	−.15	−.12	.05
17	−.05	−.31**	.05	−.01
18	−.08	.10	.36**	.10
19	−.13	.17	.28*	.14
RI	.18	−.31**	.01	−.19

*Significant at the 5% level. **Significant at the 1% level.

Continuous variables were age, age at puberty as estimated by the *S* (M = 13.2), and the 15 factors of the Edwards Personal Preference Schedule. Product-moment correlation coefficients were computed between the scores on each of these 17 continuous variables, and the 19 ratings and the Reactivity Index. Of the 17 continuous variables, the following yielded no statistically significant coefficients: age, Achievement, Nurturance, Affiliation, Succorance, Exhibition, Dominance, and Heterosexuality. The following variables had only a single statistically significant coefficient, no one of which exceeded .26: Aggression, Deference, Autonomy, Intro-ception, and Abasement. The correlations between themes and Reactivity Index, and scores for the remaining four variables, are given in Table 5.

Discussion

The absence of position and order effects, and the high correlations among sets and within subjects' ratings, indicates clearly that the concept of preference for sexual themes, using photographic stimuli is reliably established.

Preferences for sexual activity or theme is definitely a variable. The range of theme ratings as shown in Table 3 (0.04 to 4.13) covers nearly the entire range of the scale. The activities depicted in the four themes which receive the top ratings are heterosexual coitus and heterosexual petting, the so-called "normal" sexual behaviors. Male homosexual activities or photos of males alone all rated less than 1.00 on the scale and ranked very low. It is of interest, however, that every theme, regardless of content, had a mean greater than zero.

Themes 8, 11, and 12, which depict female homosexual or autoerotic activity, all were rated significantly higher than themes showing male homosexual activity (14 and 17), a verification of a well-worn clinical belief. Heterosexual fellatio and cunnilingus, the most common "abnormal" sexual activities (Themes 5 and 7), were relatively stimulating. The means of 3.39 for the former is significantly exceeded only by the two top-rated themes, both of which portray heterosexual coitus.

The means for Themes 13 and 15, which show sado-masochism, differ significantly, indicating that there is greater excitation when the male is depicted as the sadist. The absolute mean difference is relatively small, perhaps suggesting that the major portion of the erotic valence of any sado-masochistic theme is a constant, and that the sex of the aggressor is of relatively minor importance.

Perhaps the most interesting findings concern the stimulus values of Themes 6 and 10. The excitory capacity of the former theme, the nude female, is significantly exceeded only by the three top-rated themes. It is significantly more stimulating than Themes 8-13 inclusive, and 15, all of which depict females in some form of sexual behavior. Theme 10, the partly clad female, is a type of picture which appears commonly in "girlie" magazines, which are easily accessible at newsstands in most parts of the country. Its stimulus value is significantly exceeded by the seven top-rated themes. It is no less stimulating than photographs which would usually be considered to be pornographic, and whose participants are nude, like those of Themes 8 and 9, as well as those which rank below it numerically, such as Themes 11 to 17 inclusive. It appears necessary to conclude that a photograph of a partly draped female figure, though it shows neither bare breasts nor pubic area, is likely to be highly stimulating to the young adult male.

The interpretations of the four significant *F*-ratios listed in Table 4 are uncertain. There is no apparent reason why those subjects who are less devout, as measured by frequency of church attendance, should react more intensely to heterosexual fellatio and female masturbation themes. The fact that both themes which are related to size of the community deal with male homosexual practices is suggestive, but nothing more. One might speculate that males who grew up on farms or in small towns more frequently indulge in homosexual practices in youth. However, this is an unlikely explanation; earlier analyses[1] found no correlations among male homosexual themes and self-reports of homosexual practices in early life.

It is possible that the significant relationships with discrete variables are no more than chance, bearing in mind that some 95 F-ratios were computed between the 19 themes and these background factors.

The same inference might apply to the correlational analyses in Table 5. Of 323 r's computed with the 19 themes, 20 are statistically significant at the 5% level or beyond. If these coefficients had all been independent, a binomial expansion indicates that there is an 85% probability of obtaining 20 significant coefficients of 323 computed. However, the unusual clustering of significant negative coefficients with Endurance appears to merit some theoretical consideration. To begin with, one of the significant coefficients at the 1% level is with the Reactivity Index. Of the 19 themes, seven are significantly related. Furthermore, a total of 15 of the themes show negative correlations. A sign test against the chance hypothesis yields a chi-square of 5.26, which is significant well beyond the 5% level.

The verbal definition of Endurance, which guided the test constructor in selecting its items, is as follows: To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work without distraction, to stick to a problem even though it may seem as if no progress is being made, to avoid being interrupted while at work[2].

What is suggested is that the hard-working, persistent, plugging individual is less distracted by fantasy sexual stimulation. The correlation, of course, does not indicate the direction of cause and effect. It is conceivable that the persistent individual is less distracted because he can concentrate more effectively on a task, or it may be that he can concentrate more effectively because he is less given to fantasy.

The variable, Change, which is significantly related to reactivity to photographs of nude and partly clad males, is defined thus: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions[2].

It is conceivable that the desire for change could include homosexual interest in some individuals but it is again uncertain which is cause and which is effect. It is of further interest that our earlier analyses[1] showed substantial positive correlations between Themes 18 and 19 and reports of homosexual experiences in early life.

The earlier the onset of puberty, the stronger the reaction to the two themes depicting petting, and heterosexual fellatio. Again, the relationships are suggestive, especially in view of the finding that reactivity to Theme 5 and the actual experience of fellatio are positively correlated[1]. It is possible, for example, that those who reach puberty earlier began petting activities earlier (though all but 2 *Ss* had participated in various forms of petting, including manual manipulation of the female genitalia, by the time of our study), and it is also possible that fellatio was one of the earlier forms of sexual outlet experienced by a number of *Ss*.

Among the variables which were totally unrelated to reactivity, too much should not be made of marital status and age. While the proportions of married and unmarried subjects were fairly close (N's of 36 and 30), the mean number of years married was only 3.1, SD 2.4. Only 8 *Ss*, or 22% of the sample, had been married for as long as five years. One might speculate that three years is too short a period of married life to have any substantial effect on sexual preferences.

The sample was similarly homogeneous with respect to age. The mean of 23.9 years has a SD of only 2.1 and a range of from 21 to 32 years. Fifty-three *Ss*, or 78% of the sample, were in the age range 22-24 years inclusive, and only 6 *Ss* were older than 27 years. Such extreme homogeneity makes significant correlations with other variables highly unlikely.

It is worth noting that Heterosexuality, which is presumedly a measure of the subject's interest in the opposite sex and in sexual matters, was entirely unrelated

to theme reactivity. The correlation with RI was only .08 and the average correlation with the 19 themes was only .03. Heterosexuality is defined in the EPPS as follows: To go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex, to read books and plays involving sex, to listen to or tell jokes involving sex, to become sexually excited[2].

The Scale includes items which deal with fantasy stimulation, but the majority are concerned with overt behavior. What is suggested is that the degree of fantasy stimulation, such as is provided by the photographs, is unrelated to sexual behavior in general, provided that the latter includes both overt and fantasy behaviors.

Summary

Preferences (erotic stimulus values) for 19 different sexual themes were obtained from 68 male graduate students by means of ratings of photographs. Individual reactivity to this type of stimulus appears to be normally distributed in the sample. Mean theme ratings ranged from 0.04 to 4.13 on a 6-point scale. Photos of nude and partly clad females were rated as high as many photographs depicting sexual behavior. Photos showing female homosexual behavior were rated higher than those showing male homosexual behavior. Some significant relationships were found between theme ratings and church attendance, size of community of residence, and age of puberty. Significant correlations with scales of the EPPS were few, but tended to cluster on Endurance. Some theoretical speculations about the findings are offered.

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A COMPARATIVE STUDY OF CLEFT PALATE CHILDREN AND THEIR SIBLINGS*

AUBREY L. RUESS

University of Illinois, College of Medicine
Chicago, Illinois

Problem

This study was designed to answer the question: Do children with the cleft palate syndrome show differences in intellectual development, in the acquisition of secondary language development, in body-image concepts, and in school progress as compared to their normal siblings? It has been noted that some cleft palate children have impairments of secondary language development and have less well developed body-image concepts than would be expected among the general population of children with similar characteristics of age, sex, intelligence, and social-class status [14]. Secondary language is defined to mean in the context of this study any measurable language ability other than speech *per se*. The measures of secondary language secured were limited to oral reading, reading comprehension, reading vocabulary and spelling.

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